

**Solid Waste Scale House Operations  
Performance Audit**

**April 2012**

**DURHAM**



**1 8 6 9**  
CITY OF MEDICINE

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**To:** Audit Services Oversight Committee  
**From:** Germaine F. Brewington, Director, Audit Services Department  
**Date:** April 4, 2012  
**Re:** Transmittal of Solid Waste Scale House Operations Performance Audit (April 2012)

The Department of Audit Services completed the report on the Solid Waste Scale House Operations Performance Audit dated April 2012. The purpose of the audit was to determine the adequacy of controls over the City's Scale House operations including cash receipts, billing, and collections of delinquent accounts for tipping fees.

This report presents the observations, results, and recommendations of the Solid Waste Scale House Operations Performance Audit. City management concur with the recommendations made. Management's response to the recommendations is included with the attached report.

The Department of Audit Services appreciates the contribution of time and other resources from employees of the Departments of Solid Waste and Finance in the completion of this audit.

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The mission of the Solid Waste Management Department is to manage municipal solid waste, household hazardous waste, recyclables, and disposal services in a manner that is environmentally sound, cost-effective, and safe. The department operates two drop-off facilities for residents to safely dispose of recyclables, electronics, appliances, household hazardous waste and trash. These facilities are open to all City of Durham and Durham County residents, as well as citizens and commercial customers from other counties. Commercial users may use the Waste Disposal and Recycling Center; however, the Hazardous Household waste facility does not accept material from commercial users.

The audit focused on the Waste Disposal and Recycling Center. The Scale House is located at this facility and the purpose of the scale house is to collect appropriate fees from individuals and commercial users disposing of waste. The following waste items are accepted at this facility:

- Household garbage (municipal solid waste)-Fees apply
- Yard waste—Fees apply
- Asphalt shingles—Fees apply
- Recycling
- Lead acid batteries
- White goods (appliances)
- Scrap tires, without rims only-no fees for less than five tires
- Motor oil and cooking oil
- Motor oil filters
- Used anti-freeze
- Swap items

The price structure follows:

### Municipal Solid Waste (MSW)

- Commercial loads - \$42.50 per ton
- Residential cars, station wagons, minivans - \$1 per load (minimum)
- Standard residential pick-up trucks and SUVs – flat rate based on volume, maximum of \$14

### Yard Waste

- Commercial loads - \$26.50 per ton
- Residential cars, station wagons, minivans - \$1 per load (minimum)
- Standard residential pick-up trucks and SUVs – flat rate based on volume, maximum of \$14

### Roofing Shingles

- Everyone pays \$42.50 per ton. There is no discount for residents or any flat fees that apply to shingles disposal.

### Used Tires

- Five or fewer tires, off the rim only – no charge
- Tire retailers/haulers with DENR certification may bring tires at no charge only if all the tires are off the rim. Copies of car titles or E-500G tax forms may be required as proof of eligibility for free disposal.
- All other - \$91 per ton

The revenues collected from municipal solid waste and yard waste at the Scale House are classified as tipping fees in the general ledger.

Approximately \$6,396,032 was collected in tipping fees for FY 2010-2011 and approximately \$6,662,300 is budgeted for tipping fees revenue for FY 2011 – FY 2012.

The Scale House uses WasteWORKS – a waste management system to capture and process transactions. This system interfaces with the MUNIS system, which bills the customers. There are two scales at the Scale House—scale # 1 is for the cash/check customers and scale # 2 is for City vehicles, front-end trucks, bulky trucks, and customers with accounts. When customers drive up to scale # 2 they enter their code into the keypad that is stationed outside. The load is weighed and the data, which is captured in WasteWORKS, is processed and a receipt is generated.

Cash customers drive up to scale # 1 and the load is weighed before the customer is directed to the proper location for disposal. Customers are required to provide a deposit at the time of weigh in. Once customers dispose of the waste at the appropriate location, they return to the Scale House to get reweighed. The WasteWORKS system captures the weight of the load in and out and generates a receipt after payment is received by staff.

### **Purpose**

To determine the adequacy of controls over the City's Scale House operations including cash receipts, billing, and collections of delinquent accounts for tipping fees.

We conducted this performance audit in accordance with generally accepted governmental auditing standards. Those standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

### **Results in Brief**

The Scale House staff efficiently process a large volume of transactions Monday through Saturday. Management was very receptive to improving the control environment and implemented improvements during the fieldwork period. They were also forthcoming with information requested during the course of the audit. Audit staff noted a high level of customer service and professionalism from the staff during the audit.

In addition to reviewing controls, audit staff also performed a reasonableness test to determine the accuracy of revenue recognition in the general ledger for municipal solid waste and yard waste tipping fees based on tonnage disposed for the period of July 2011 to February 2012. The revenue reported appeared reasonable. The Solid Waste Department has collected 99.55% of all bills generated in FY 2011 as of March 31<sup>st</sup> 2012. The department has collected 94% of all bills generated in FY 2012 as of March 31<sup>st</sup> 2012. Areas for improvement include:

- Current policies are not comprehensive and should be revised.
- Controls over cash receipts at the Scale House need to be strengthened. Lack of segregation of duties exists at the Scale House. In smaller operations it may not be feasible to segregate all of the cash-related duties. In these circumstances, the department may rely on increased monitoring as a compensating control to mitigate risk from misappropriation of cash. Compensating controls in the form of management oversight should be implemented.
- Opportunities exist for improvement in the internal controls over the billing and collections process for tipping fees in the Scale House operations.
- The process to determine the deposit amount required from cash customers is subjective and should be established and documented in their guidelines.

### Scale House Operations



### Scale House Operations & Transfer Station Facility



### Solid Waste Containment Material Drop Off (Adjacent to Transfer Station)



### Objectives

The objectives of the audit were to:

- Determine whether sound practices and policies are being exercised over cash receipts, billing and collections of delinquent accounts;
- Determine if adequate controls exist over the billing process for tipping fees;
- Determine if adequate controls exist over collections of tipping fees delinquent accounts;
- Validate controls over the cash receipts/collections process for tipping fees;
- Determine whether the City's Scale House operations favorably compare to other cities/municipalities in North Carolina; and
- Verify the accuracy of account information for commercial accounts.

### Scope

The scope of the audit included all current practices at the Scale House operations as they relate to cash receipts/collections, billing and collections of delinquent accounts for the Scale House operations.

### Methodology

In order to achieve the objectives of the engagement, audit staff performed the following steps and procedures:

- Documented the cash receipts, billing and collections of delinquent accounts processes;
- Examined the transfer of account information from the WasteWORKS system to the MUNIS system;
- Selected a sample of transactions in the WasteWORKS system and the accuracy of the bill generated in the MUNIS system;
- Verified the reasonableness of actual revenue for FY 2011 and FY 2012 to date based on the tonnage disposed;  
Obtained and reviewed policies/procedures;
- Interviewed employees responsible for cash receipts, billing and collections of delinquent accounts;
- Obtained and reviewed the Accounts Receivable Aging Report as of February 2012;
- Selected a sample of delinquent accounts and determined actions taken to collect on them;
- Evaluated the accuracy of the application of late fees and penalties applied to customer accounts;
- Determined the adequacy of the override process for commercial accounts;
- Surveyed other N.C. Cities/municipalities based on the following comparable service area criteria:
  - a. Rate
  - b. Tonnage
  - c. Annual Revenue
  - d. Total customer numbers processed
- Performed unscheduled cash counts of cash receipts at the Scale House;
- Observed and documented the cash receipts process;
- Reconciled receipts to actual cash counts and to deposits (noted any overages/shortages) for ten days and investigated any material cash overages/shortages;
- Reviewed cash overage/shortage reports and investigated any material amounts and differences;



## OBJECTIVES, SCOPE AND METHODOLOGY

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- Tested deposits to ensure they were made on a timely basis per policy GP 303.01 Cash Handling – City Cash;
- Reviewed evidence of daily/periodic supervisory reviews of critical information and reports;
- Documented controls over voided transactions and determined if they are reasonable;
- Reviewed the storage/safeguarding controls over cash receipts at the Scale House;
- Reviewed and documented the detail function of the WasteWORKS system;
- Obtained and reviewed compliance reviews conducted by the North Carolina Department of Environmental and Natural Resources; and
- Verified customer account information.

During the audit, staff also maintained awareness to the potential existence of fraud.

**Finding 1: Current drafted guidelines over the Scale House Operations are not comprehensive.**

The Scale House management on February 21, 2012, drafted written Cash Handling guidelines. These guidelines were developed because of communication with management by audit staff during the course of the fieldwork. Audit staff reviewed these guidelines, however did not test them. Management should revise these guidelines to include procedures regarding the following areas:

- The end of the day reconciliation
- Management's responsibility to review cash receipts to ensure controls are operating as intended
- Staff's authority to obtain change from the bank
- The preparation of daily deposits
- Changing of safe combinations and security codes
- The current listing of all staff with access to the safe combinations and security codes
- The manual process to record transactions in the event of a WasteWORKS malfunction
- Cash Handling training requirements for Scale House operators and their backups
- The process to determine deposits required from cash customer.

The guidelines currently address voided transactions. Per guidelines, "On the daily cash sheet, all voids need to be documented with the person(s) name that voided the ticket(s) with the original amounts voided". Additionally, the guidelines should require capturing of voided transactions on the Monthly Scale House Report in order to enable effective management oversight of voided transactions.

Management should also establish written guidelines over the billing and collections of delinquent accounts.

**Finding 2: Controls over cash receipts at the Scale House need to be strengthened.**

A well-designed set of internal procedures can provide reasonable assurance that significant theft of cash receipts and record keeping errors will be properly managed or detected. The Scale House collects a considerable amount of cash on a daily basis. Lack of adequate controls can increase the risk of cash receipts being misappropriated without detection. Audit staff reviewed controls over cash receipts to determine:

1. That proper safeguards over un-deposited cash receipts are in place
2. That cash receipts collected are deposited accurately
3. That cash receipts are deposited timely
4. The segregation of duties exist
5. That management oversight over the collections and deposits process is adequate.

In addition to reviewing controls, audit staff also performed a reasonableness test to determine the accuracy of revenue recognition in the general ledger for municipal solid waste and yard waste tipping fees based on tonnage disposed for the period of July 2011 to February 2012. The revenue reported appeared reasonable.

### *Proper safeguards are in place*

#### Effective Controls:

- Adequate physical facilities exist for safeguarding cash. The Scale House is locked at all times and only authorized individuals are allowed access. The safe used is adequate to secure and maintain the quantity of cash receipts for an operation of this size.

#### Internal Control Deficiencies:

- Some of the normal operating practices at the Scale House decrease the security of the Scale House, its employees, and the funds stored within. These practices include: (a) opening the outside door to drivers to provide information about weighing tires; and (b) checking in court ordered community service workers. These activities expose the staff to potential incidents of theft or intrusion since funds are displayed in the open as attendants accept deposits and return cash to customers throughout the day.
- Access to secure areas should be limited to those employees that require access as a part of their job duties. In addition, a list does not exist that identifies employees that have access to safe combinations, security codes, and who possess keys.
- Regularly changing safe combinations and security codes is not a current practice at the Scale House.

### *Cash receipts collected are deposited accurately*

#### Effective Controls:

- The WasteWORKS system records transactions and provides a receipt for each cash transaction
- Each cashier has his or her own till. According to staff, it is a standard practice that each employee uses his or her own till
- According to staff, it is a standard operating procedure to provide a receipt to each cash customer
- Checks are restrictively endorsed at the time of receipt
- Cash collected is reconciled daily to system generated cash receipts and WasteWORKS generated reports (that show cash received and checks received).

#### Control Deficiencies:

- Currently all cashiers can void a transaction without managerial approval. According to management, it is not feasible for the Assistant Disposal Manager to be present at the Scale House to approve voided transactions at the time of occurrence. As a result, the department

- is at an increased risk that employees could fraudulently void transactions and improperly handle funds received from the customers.
- The WasteWORKS system allows operators to abort a transaction at any point until a receipt is generated. Currently, cashiers abort transactions if they enter incorrect information into WasteWORKS. The system does not capture information on aborted transactions. As a result, the department is at an increased risk that employees could improperly handle funds received from customers without any documentation.
  - Not all positions authorized to handle cash have cash handling duties mentioned in their job descriptions.

### *Cash receipts are deposited timely*

#### Effective Controls

- The Scale House solicits the services of Brink's Incorporated to transport cash collected to the bank for deposit. The Brink's employee initials a log sheet attesting to receiving the deposit for delivery. Deposits are made in accordance with policy GP 303.01 Cash Handling – City Cash.

### *Segregation of Duties*

#### Effective Controls

- An employee in the Finance department reconciles bank statements for the Scale House operation to the revenue reported in the general ledger on a monthly basis.

#### Control Deficiencies

- Receiving, depositing and reconciling functions are not segregated at the Scale House. The staff that collects cash prepares the deposit and reconciles cash collected to system-generated reports. Cash handling duties can be divided into three stages: receiving, depositing, and reconciling. Ideally, different individuals should perform all three activities. The purpose of segregation of duties is to minimize the opportunity for an employee to misappropriate funds and avoid detection.
- Employees responsible for collecting cash and preparing deposits are recording cash transactions in the accounting records. Segregating the duties of receiving and recording cash transactions prevents a single employee from skimming un-deposited cash (or substituting checks received from cash taken) and altering records to disguise the theft. Segregating the duties of preparing bank deposits from recording duties prevents an employee from removing cash from a bank deposit and altering accounting records to disguise the theft.

### *Management oversight over the collections and deposits process*

#### Effective controls

- Management receives a Monthly Scale House Report that captures the fees collected and deposited and identifies any overages/shortages.

#### Control Deficiencies

- Overages and shortages are reported to management on the Monthly Scale House Report. Occasionally a written explanation for the overages/shortages is included in the monthly report. Unusual variations are investigated according to the operators and supervisor. However, documentation does not exist to support this practice. Per the draft Cash Handling guidelines established on February 2012, a thorough documented explanation of all shortages over \$10.00 is required going forward.
- Management does not review voided transactions at present. The Monthly Scale House Report does not capture the amount and number of void transactions. Requiring supervisor review of voided transactions will reduce opportunity for false refunds or theft of cash.
- Lack of segregation of duties exists at the Scale House as indicated above. In smaller operations, it may not be feasible to entirely segregate all of the cash-related duties. In these circumstances, the department may rely on increased monitoring as a compensating control to mitigate the risk that cash is misappropriated. No evidence exists that management currently reconciles revenue per WasteWORKS to revenue reported in the general ledger. In addition, they do not perform a reasonableness test based on tonnage reports to determine if revenue reported is reasonable.

### **Finding 3: Review identified opportunities for improvement in the Scale House Operation's internal controls over the billing and collections process for tipping fees.**

The Solid Waste Department has collected 99.55% of all bills generated in FY 2011 as of March 31<sup>st</sup> 2012. The department has collected 94% of all bills generated in FY 2012 as of March 31<sup>st</sup> 2012.

#### Effective controls

- An adequate application process exists to authorize customers to establish a credit account with the Scale House.
- The Scale House staff reconciles bills generated by the MUNIS system to customer account information in the WasteWORKS system. Audit Staff selected a sample of transactions in the WasteWORKS system and verified if the MUNIS system generated accurate bills for these transactions. No exceptions were noted.
- The Scale House staff adequately monitors delinquent accounts and takes appropriate actions toward collection. Adequate coordination exists between the General Billing and Collections Division of the Finance Department as well as the Scale House staff to ensure delinquent accounts are addressed in a timely manner. Audit Staff selected twenty-two

- companies with delinquent accounts prior to November 5, 2011 and inquired about the actions taken by either Scale House staff or the General Billing and Collections Division staff to collect on them. Adequate actions were taken to collect on these delinquent accounts.
- The process for overriding account charges in the MUNIS system is adequate. Once the bills are processed, only the General Billing and Collections Division staff can override the information in the MUNIS system.

### Control Deficiencies

- No documented evidence exists that management reconciles all that should be billed (transactions from WasteWORKS) to what is actually billed (in the MUNIS system).
- Customers can send in checks via mail to pay bills. The Solid Waste Administration facility receives these checks and forwards them to the Scale House. A log sheet is not maintained to capture checks received via mail.
- Lack of segregation of duties exist because the person who ensures billing accuracy also collects cash, prepares deposits, and posts checks to customer accounts. When one person controls all phases of the accounting functions, the custody of cash, record keeping and reconciliation, the risk that potential errors or fraud could go undetected is high.
- Management currently does not review Accounts Receivable balances for abnormalities. Audit staff reviewed the aging list and investigated unusually high credit balances. In a few instances, credits were posted in error. Credit balances can cause the Accounts Receivable ledger balance to be understated.

### **Finding 4: The process to determine the deposit amount required from cash customers is subjective and not adequately documented.**

Cash customers disposing waste at the Scale House are required to leave a deposit with the Scale House Operator prior to disposing of waste. The deposit amounts are variable and each operator uses his or her judgment based on the weight/size of the load to determine a deposit amount. The deposit amount is keyed into the WasteWORKS system. The deposit amount is placed in an open 'cigar' type box and maintained there until the customer drives back around for a reweigh; or until the end of the day, in which case it is deposited as an overage. The customer does not receive a receipt for the deposit amount. The WasteWORKS system is not designed to generate a receipt for the deposit received. Other procedures are not in place to acknowledge the deposit amount provided by the customer. This practice causes a material weakness in the cash collections process due to the lack of adequate documentation and the subjective nature of the deposits.

## AUDIT RESULTS

Audit staff obtained benchmarking data from Scale House management and updated the information by contacting the representative Cities/Counties. The following table displays the information:

City (County)	Annual Traffic Volume	Annual Revenue	Annual Tonnage	Yard Waste Tipping Fee	Municipal Solid Waste Tipping Fee
Alamance*	93,600	\$3.2 million	82,085 #	\$19.00	\$38.00
Greensboro	41,000	\$9.2 million	224,230	Do not accept YW	\$41.00
Winston-Salem *	88,346	\$7.9 million	221,322 #	\$29.00	\$34.00
Raleigh/Wake County*	40,201	\$9.2 million	255,097	Do not accept YW	\$36
<b>City of Durham</b>	<b>65,000</b>	<b>\$5.9 million</b>	<b>133,690</b>	<b>\$26.50</b>	<b>\$42.50</b>

*\*Alamance, Winston-Salem, and Raleigh are actually County operated facilities.*

*#The Alamance and Winston-Salem facilities are landfill facilities, all other facilities are transfer stations.*

Currently there is a private waste disposal company "Waste Industries" that operates near the City of Durham and charges \$42.50 for Municipal Solid Waste tipping fees. Waste Industries does not accept yard waste disposal.

### **Recommendation 1**

The Solid Waste Department should revise the existing Cash Handling guidelines to include:

- *End of day reconciliation procedures*
- *Management's responsibility to review cash receipts and ensure controls are operating as intended*
- *Staff's authority to obtain change from the bank*
- *Process for preparing daily deposits*
- *Changing of safe combinations and security codes*
- *Manual process to record transactions in the event of WasteWORKS malfunction*
- *Cash Handling training requirements for Scale House operators and backups*
- *A process for determining deposits required from cash customers and notifying customers of the deposit provided upon receipt*
- *Use of a receiving log to document all Checks received by mail. The log should include the date of receipt and the receiver's name/signature.*
- *Instances when Staff can use the abort transaction function in the WasteWORKS system*

In addition, written guidelines over the billing and collection of delinquent accounts process for Scale House Operations should be established.

### **Recommendation 2**

The Solid Waste Department should implement additional oversight controls over cash receipts, billing and collections of delinquent accounts by performing the following:

- Reconciling cash collected/billed per WasteWORKS reports to the revenue reported in the general ledger
- Performing a reasonableness test based on tonnage to ensure revenue reported is complete
- Reviewing voided transactions on a regular basis
- Maintaining documentation of monitoring activity
- Reviewing the Accounts Receivable listing- specifically credit balances
- Placing instructional signage at the Scale House location, which states, "Please call XXX-XXX-XXXX if you don't receive a receipt, as an instructional and theft deterrent measure.
- Placing signage at the Scale House, which displays the rates charged for various types of disposal.



### **Recommendation 3**

The Department of Solid Waste should review processes that compromise the security of the Scale House and consider alternative processes if feasible.

## MANAGEMENT'S RESPONSE

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**To:** Germaine F. Brewington, Director of Audit Services

**From:** Donald M. Long, Director of Solid Waste Management

**Date:** April 12, 2012

**Re:** Management's Response  
Solid Waste Scale House Operations Performance Audit (2012)

The following is the management's response to the Solid Waste Scale House Operations Performance Audit dated April 4, 2012.

### **Recommendation 1:**

The Solid Waste Department should revise the existing Cash Handling guidelines to include:

- End of day reconciliation procedures
- Management's responsibility to review cash receipts and ensure controls are operating as intended
- Staff's authority to obtain change from the bank
- Process for preparing daily deposits
- Changing of safe combinations and security codes
- Manual process to record transactions in the event of WasteWORKS malfunction
- Cash Handling training requirements for Scale House operators and backups
- A process for determining deposits required from cash customers and notifying customers of the deposit provided upon receipt
- Use of a receiving log to document all Checks received by mail. The log should include the date of receipt and the receiver's name/signature

In addition, written guidelines over the billing and collection of delinquent accounts process for Scale House Operations should be established.

**Management Response: We concur. Management is in full agreement with the recommendation.**

**The Department will create a policy that will be included in the Departmental Standard Operation Procedure Manual to address all of the above. Reconciliation procedures will be formalized and proper documentation of said procedure will occur daily. Management on the level of Assistant Solid Waste Manager will become more involved in designating authority for handling cash receipts, enforcing and reviewing control, obtaining change, preparing cash receipts and ensuring the safe combination is changed at the very least on a yearly basis. It is cost prohibitive to change more often. Management will also establish a check list that will be signed and dated daily to ensure procedures have been followed in regards to all policies including cash handling and handling checks received by mail. Management will establish a policy on receiving deposits from cash customers. All policies will be reviewed and approved by the Director and a representative from the Audit Services Department.**

**Recommendation 2:**

The Solid Waste Department should implement additional oversight controls over cash receipts, billing and collections of delinquent accounts by performing the following:

- Reconciling cash collected/billed per WasteWORKS reports to the revenue reported in the general ledger
- Performing a reasonableness test based on tonnage to ensure revenue reported is complete
- Reviewing voided transaction on a regular basis
- Maintaining documentation of monitoring activity
- Reviewing the Accounts Receiving listing- specifically credit balances
- Placing instructional signage at the Scale House location, which states, "Please call XXX-XXX-XXXX if you don't receive a receipt, as an instructional and theft deterrent measure.
- Placing signage at the Scale House, which displays the rates charged for various types of disposal.

**Management Response: We concur. Management is in full agreement with the recommendation. All of Recommendation 2 will be addressed as stated above in Recommendation 1 and recommended signage will be posted.**

**Recommendation 3:**

The Department of Solid Waste should review processes that compromise the security of the Scale House and consider alternative processes if feasible.

**Management Response: We concur. Management is in full agreement with the recommendation. It should be noted that this recommendation will largely be addressed in the RFP and construction process. The department will in the meantime establish temporary security processes suitable for our current infrastructure.**

**I have set a deadline of May 31, 2012 to have all administrative policies available for review and approval.**